



Identifying Resident Birds

Post-Visit Activities

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What Can We Learn From Our Field Journals?



Post-Visit Lesson Plan

Students compile data from field journals to draw conclusions between what they have learned in class and what they have experienced in the field.

Time required: 2 hours

Location: classroom

Suggested group size: entire class

Subjects: science, language arts, math

Concepts covered: science, math

Written by: Christie Denzel Anastasia, National Park Service

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Student Outcomes

At the end of this activity, the students will be able to:

- Understand the significance of scientific observations
- Understand the relationship between birds and their habitat

California Science Standards Links (grades 6-8)

This activity is linked to the California Science Standards in the following areas:

- 6th grade
- 5e - the numbers and types of organisms an ecosystem can support depend on the resources available and abiotic factors, such as the quantity of light and water, range of temperatures, and soil composition
 - 7b - appropriate tools and technology to perform tests, collect and display data
 - 7d - communicate the steps and results from an investigation in written reports and verbal presentations
 - 7e - recognize whether evidence is consistent with a proposed explanation
- 7th grade
- 7a - appropriate tools and technology to perform tests, collect and display data
 - 7b - utilize a variety of print and electronic resources (including the World Wide Web) to collect information as evidence as part of a research project

Creating
COASTAL
STEWARDSHIP
through Science





7c - communicate the logical connections among hypotheses, science concepts, tests conducted, data collected, and conclusions drawn from scientific evidence

8th grade 9b - evaluate the accuracy and reproducibility of data

National Science Standards Links (grades 5-8)

This activity is linked to the National Science Standards in the following areas:

- Content Standard A - Use appropriate tools and techniques to gather, analyze, and interpret data; Think critically and logically to make the relationship between evidence and explanations; Recognize and analyze alternative explanations and predictions; Communicate scientific procedures and explanations; Use mathematics in all aspects of scientific inquiry; Understanding about science and technology
- Content Standard C - Populations and ecosystems

Materials

To be provided by the teacher:

- Eight large sheets of paper, markers
- *Field Checklist of Birds for Point Reyes National Seashore* (available at the Bear Valley Visitor Center bookstore)

Procedures

1. Review Field Trip

Each student should have his or her completed field journals for this lesson. Ask students about their experiences birding. What was the easiest thing about birding? What was the most difficult? Explain that being able to identify a bird is only part of the story. It is important to understand the bird's behaviors, habits, and significance in the ecology of an area. It's also important to understand challenges facing a bird and its habitat in its ability to survive.

2. Review Bird Observation Charts

If students were able to identify specific birds on their field trip:

Use the *Field Checklist of Birds for Point Reyes National Seashore* to differentiate between resident species and migratory species. Refer to the charts found in the *Birds of Point Reyes National Seashore* newspaper. Did the observed species coincide with land or ocean habitat? Season? Location? Using a bird identification guide, map the routes of the migratory species.

If students were able to identify only resident birds studied previously:

If students observed any of the following species, divide the class into groups to research more of the natural history specific to that bird (turkey vulture, red-tailed hawk, acorn woodpecker, Brewer's blackbird, California quail).

Encourage information related to ecology, habitat, and threats to bird and/or habitat.



3. Summary

Encourage students to share what they have learned from their field journals and this lesson. Students could draw a poster summarizing their field trip or write stories about what happened while they were bird-watching. Additional activities in the post-visit lesson **How Do I Choose and Complete the Best Stewardship Project?** will relate birds and their lives to the choices we make.

Extension Ideas

1. Expand the class research to include a broader range of bird species that live or pass through Point Reyes. Have the students build a model of the habitats of Point Reyes National Seashore and create a comprehensive presentation of the other common species of birds found at Point Reyes.
4. Refer to the second to last page of the *Birds of Point Reyes National Seashore* newspaper. Have students research the threatened and endangered or nonnative species of Point Reyes National Seashore.

How Can I Choose and Complete the Best Stewardship Project?



Post-Visit Lesson Plan

The final lesson for this unit synthesizes all previous learning experiences. Students have gained an understanding of resident birds and their habitats. Now it's time to take action and put their experience and knowledge into use. Teachers may choose from eight different activities.

Time required: varies

Location: classroom, school yard, or community

Suggested group size: entire class

Subjects: biology, art, computer skills, community service

Concepts covered: stewardship, educating others,
environmental responsibility

Written by: Christie Denzel Anastasia, National Park Service

Last updated: 02/22/02

Student Outcomes

At the end of this activity, the students will be able to:

- Synthesize all other pre-visit, on-site, and post-visit lessons from this guide
- Plan and implement an environmental stewardship activity to benefit the ecosystem they live in and depend upon

National Science Standard Links (grades 5-8)

This activity is linked to the National Science Standards in the following areas:

- Content Standard F - Science in personal and social perspectives; Populations, resources, and environments.

Vocabulary

stewardship





Procedures

1. **Decide on Lesson**

Review the Teacher Information sheet **Identifying Resident Birds: Environmental Stewardship Projects**. This resource explores the range of stewardship projects your class can choose from depending on time, need, and interest. Many of the projects are interdisciplinary and may fulfill educational standards for other subject areas.

2. **Introduce Concept of Environmental Stewardship**

Begin a discussion of who has responsibilities for natural resources. There are federal agencies such as the National Park Service and the United States Forest Service, state agencies such as California Fish and Game, and local organizations. Introduce the concept that organizations such as schools and individuals such as students also have responsibility.

Every day we decide on an individual level what our impact will be on the environment based on our actions. It's usually positive or negative, rarely neutral.

3. **Lesson Options**

- **Feeding Birds Safely: Important information about bird feeders** Activity Sheet
- **Create Raptor Silhouettes** Activity Sheet
- **Steps to Improving Songbird Habitat on Your Land** Activity Sheet
- Project FeederWatch
- The Great Backyard Bird Count
- Christmas Bird Count
- International Migratory Bird Day (IMBD)
- Cats Indoors!

4. **Assist with Evaluation of "Creating Coastal Stewardship through Science"**

Please share your project ideas and results! If you develop a website, host a "Coastal Stewardship Day", or participate in a beach cleanup, let us know by sending photos, stories, or student materials. Call (415) 464-5139 to leave a message with the Education Coordinator of Point Reyes National Seashore.



Identifying Resident Birds: Environmental Stewardship Projects

Feeding Birds Safely: Important information about bird feeders one lesson

If anyone feeds birds, they should avoid doing more harm than good. Students will teach proper behaviors for feeding birds by sharing information from the **Feeding Birds Safely** handout following this lesson plan. Students should be encouraged to develop creative ways to encourage and correct behaviors beneficial to birds. Some ways to share this information would be to create informational posters or a storybook that can be used to educate adults.

Create Raptor Silhouettes one lesson

Songbirds frequently fly into windows on houses and office buildings because they are unable to differentiate between glass and open sky. The clear glass often reflects trees, plants, and sky, confusing the birds. As a result, birds fly into them and sometimes die. Silhouettes may help to break up the reflection and scare birds away because of their raptor shapes. Students will need to increase the size of the raptors by using a photocopy machine or increasing the size with a grid method. (These silhouettes follow this lesson.) Students will also need dark construction paper, scissors, and tape. Once the silhouettes are completed, tape them on windows. Encourage students to make more for their homes or other classrooms at your school.

Steps to Improving Songbird Habitat on Your Land long-term project

Read the **Steps to Improving Songbird Habitat on Your Land** Activity Sheet and decide if there are specific possibilities for students to improve the schoolyard habitat. Students could conceivably participate in “The Great Backyard Bird Count” prior to and after improving the habitat to determine their success.

Project FeederWatch depends on individual commitment

Currently a winter-long survey is being conducted by thousands of participants throughout the U.S. and Canada by counting the kinds and numbers of birds at feeders. They send their data back to the Cornell Lab of Ornithology scientists through the Internet or by paper data forms. Participants pay an annual fee that covers project costs; they receive a research packet that includes an instruction booklet, data form booklet, bird identification poster, tips for feeding and watching birds, and more. Contact Project FeederWatch at 1-800-843-2473 or <http://birds.cornell.edu/PFW/>



The Great Backyard Bird Count

depends on individual commitment

Join “The Great Backyard Bird Count” to count the birds in your backyard, schoolyard, and community. Submissions are entered online and your count will help to map the distribution of North America’s winter bird residents. For more information and to see results from previous counts, please visit

<http://birdsource.cornell.edu/gbbc/>

Christmas Bird Count

one day a year commitment

Christmas Bird Counts are run every year from December 14 to January 5. For more information on count location and other bird-related information, please visit <http://birdsource.org>

International Migratory Bird Day (IMBD)

annual event

IMBD is an annual event created by Partners in Flight to increase public awareness of the factors that may contribute to declines in bird populations. Each year, individuals organize special events on a specific day in May to raise public consciousness and celebrate successes. A variety of materials is available to those celebrating IMBD. Each year, products specific to the annual theme of IMBD are produced, including posters, T-shirts, and publications, and offered in a Product Catalog. General bird- or conservation-related items are also offered in Product Catalog; others are available through IMBD sponsors. You may also register your IMBD event in the special events online database or find out about events near you by querying the database. For additional information about IMBD, contact the IMBD Information Center at 703-358-2318 or visit at www.americanbirding.org/imbd/imbdgen.htm

Cats Indoors!

depends on individual commitment

The American Bird Conservancy has launched a citizen education and action campaign to end the massive and unnecessary loss of birds and other wildlife to predation by domestic cats. Scientists estimate that free-roaming cats (owned, stray, and feral) kill hundreds of millions of birds and possibly more than a billion small mammals in the U.S. each year. Cats kill not only birds that frequent our backyards, such as the eastern towhee, American goldfinch, and song sparrow, but also WatchList species such as the snowy plover, wood thrush, and black-throated blue warbler, and endangered species such as the least tern and piping plover. Not only are birds and other wildlife at risk, but cats who roam free often lead short and painful lives, living on average less than 5 years, whereas indoor cats often live to 17 or more years of age.



The American Bird Conservancy has prepared informative educational materials on the impact of cats on birds, including documentation on cat predation, health hazards, and other dangers associated with free-roaming cats, legislative solutions, and practical advice on how to convert an outdoor cat into a contented indoor pet. These materials were prepared with the assistance of a technical advisory committee with representatives from the animal welfare, conservation (including National Audubon Society), veterinary, and scientific communities. For more information visit **<http://www.abcbirds.org>** or contact:

Cats Indoors!

The Campaign for Safer Birds and Cats

American Bird Conservancy

1834 Jefferson Place, NW

Washington, DC 20036



Feeding Birds Safely: Important information about bird feeders!

There are many types of bird feeders on the market and some are designed to attract specific bird species. Instead of buying a bird feeder, consider native plant species as natural feeders on your land. Avoid feeding birds during their breeding season (April through August), as feeders can act as a major food source for avian predators and parasites, such as jays and brown-headed cowbirds. For additional information on bird feeding, see the National Audubon Society's Project Feederwatch webpage at www.audubon.org

Improving your backyard habitat with birds in mind will attract more and different birds over the long term, benefit bird populations for the future, and help keep common birds common. For more information, see the Point Reyes Bird Observatory's website at www.prbo.org and the National Wildlife Federation's website at www.nwf.org

Tips for Keeping Birds Safe at Feeders

- Put feeders in CAT-FREE ZONES. If you have outdoor cats in your neighborhood, do not attract birds. Domestic cats are excellent hunters and will kill birds.
- PROTECT YOUR FEEDERS. Protection from predators is very important at feeders. This can be accomplished through placing feeders in areas of natural vegetation, such as shrub cover.
- SHAKE OUT FEEDERS well before refilling (scrape when necessary).
- SCRUB OUT FEEDERS with 1:9 bleach/water solution, to prevent *E.coli* (bacteria) transmission through feces and any mold accumulation.

Hummingbird Feeder Safety

Hummingbirds provide us with much enjoyment, and feeders can be used as excellent educational tools, but they require strict maintenance. Consider adding to your backyard or schoolyard flowering plants, shrubs, and trees as lower maintenance and natural hummingbird feeders!

Cleaning your hummingbird feeder

- Hummingbirds can contract diseases from dirty feeders. Clean your feeder, every time you fill it, with a mild solution of dishwashing liquid and hot water, using a bottle brush and toothbrush to really clean out the crevices.
- Hummingbirds need consistently filled stations; if you go away often, don't keep a feeder.

Filling your feeder

- Use a sugar solution of 1:4 sugar/water (i.e., 1 cup sugar and 4 cups water), boil briefly, then store in a refrigerator until needed.
- Please do not use artificially colored solutions; they have been linked with birth and hatching abnormalities in hummingbirds.

Dealing with insect and ant visitors

- Smear a little mineral oil on the feeding port and hanging wire. This will keep bees, wasps, and ants at bay.

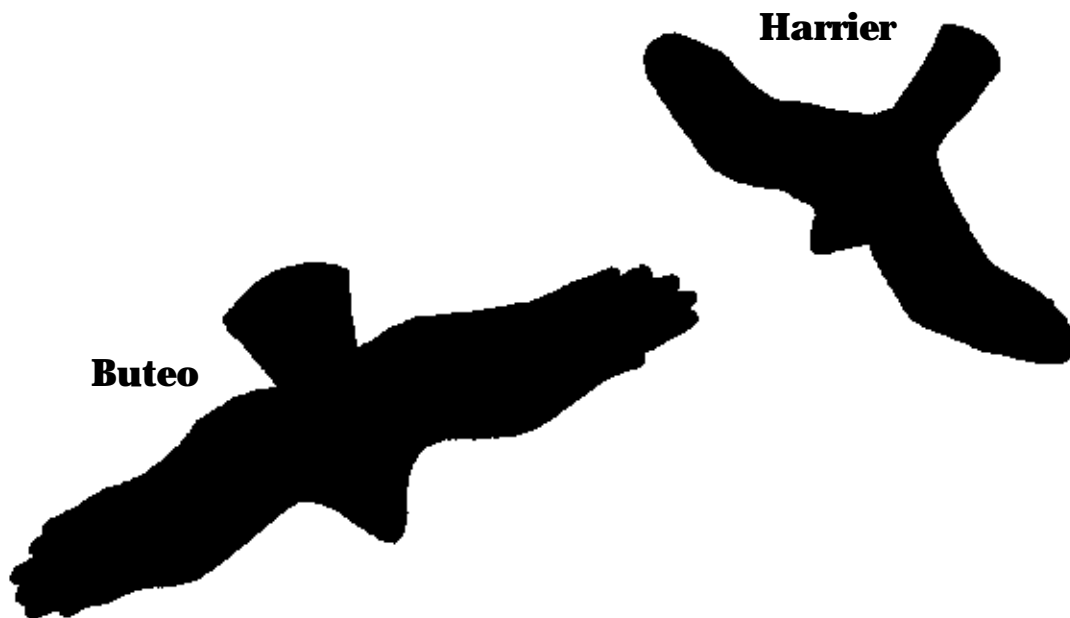
For more information, please contact the Education Specialist at Point Reyes Bird Observatory, (415) 868-0655



Name _____ Date _____

Activity Sheet

Raptor Silhouettes



Buteo

Harrier



Vulture



Accipiter



Falcon



Steps to Improving Songbird Habitat on Your Land

Breeding season is a critical time for both resident and migratory birds in California. Habitat loss and nest failure are two of the main contributing factors to bird population declines in our state. While many people we speak to express their enjoyment of feeding and viewing wildlife in their yards and on ranches, conventional landscaping does not always create the best habitat structure. Songbird breeding season lasts from late March through August in California. There are many steps that can be taken to make this time a productive one for birds on your land. We'd like to encourage wildlife lovers to go beyond simply attracting birds to their yards. Below are suggestions for creating better breeding habitat for nesting songbirds on your land. By providing habitat - especially natural nest sites and foraging areas - you can play an important role in ensuring healthy bird populations for the future.

Providing nesting sites

Native vegetation provides the best nest cover for breeding birds. We highly recommend planting native shrubs and trees in multi species clumps to provide the most nest sites with the best cover.

- Plant shrubby willow species in clumps.
- Plant native sedges and grasses.
- Leave dead trees and limbs for cavity-nesting species such as woodpeckers, bluebirds, nuthatches, and titmice. Overall, natural cavities provide better nest sites than bird boxes.
- Provide nest material such as grass clippings, leaf litter, and animal hair.

Protect riparian (streamside) areas

- Re-vegetate riparian zones with native plant species. Riparian habitat is heavily used by songbirds for nest sites, foraging, shelter for young birds, and migration rest stops.

Declare your land a bird sanctuary

Designate areas of your land "bird-friendly" by doing the following:

- Minimize human disturbance (e.g., recreational vehicles, construction, pet activity) during breeding season.
- Create networks of "bird sanctuaries" by working with neighbors and local conservancies. Connected habitat patches are the most valuable to birds.
- The National Wildlife Federation certifies backyards, schoolyards, and workplaces "wildlife friendly" through their Backyard Wildlife Habitat Program. Visit www.nwf.org for more information.

To reduce pressure from introduced (nonnative) predators:

- Keep cats indoors, especially during breeding season when vulnerable young birds are just out of the nest. Bells on the collar are not enough.
- Reduce feral cat populations.



Activity Sheet

Name _____ **Date** _____

Mow Smart!

Set aside "no-mow" areas, which will provide nest sites and shelter for several bird species, especially goldfinches, buntings, and towhees.

Mow around native tree saplings and shrubs. Even poison oak, a native shrub species, has high wildlife value. Consider leaving it in your "bird sanctuary."

Leave brush piles for shelter, foraging, and nest sites.

Learn the birds on your land

Buy a field guide and binoculars.

Take a workshop or join a bird walk in your area.

**Data show that quality habitat brings more
and different birds to an area, especially
when habitat patches are connected.**

**Work with neighbors and local conservancies
to create a network of "bird sanctuaries" in
your community.**



Information courtesy of
California Partners in Flight
and the Riparian Habitat Joint Venture.

POINT REYES NATIONAL SEASHORE